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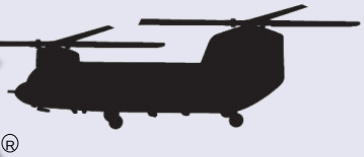
Flightfax®



Online Report of Army Aircraft Mishaps

As you and your families gather to celebrate the holidays, we want to take a moment to send greetings from the Aviation Directorate staff. We appreciate all you do to keep our Soldiers safe.

Fiscal year 2013 is off to a superb start for reducing accidents. We can maintain this year's success through assessing and maintaining your unit's safety culture. Safety culture fosters an instinctive mindset in Soldiers that manifests itself in Soldiers' activities, both on and off duty.

Safety culture is not separate or distinct from organizational culture. When done right, safety is an ingrained aspect of the organization's existing culture. A unit's shared beliefs, values and attitudes all contribute to operational safety and efficiency. Soldiers are the key stakeholders in any culture, and leaders must have their buy-in to make safety pay in their formations.

Safety must not compete with the organization's primary mission. Safety complements, not dictates, mission execution. Much of what our Army does comes with inherent risk, but in the thick of the fight, the Soldiers engaged in actual operations control how hazards are mitigated. Leaders must guide them through holistic risk assessments that account for hazards posed by the enemy, environment, materiel, and their own human error, and then give them the latitude to make smart decisions to control aggregate risk.

Risk management is linked to readiness. Safety keeps Soldiers and equipment in fighting condition. Every loss degrades readiness, regardless of the source. Accidental fatalities are senseless because they can often be prevented, and every death leaves a lasting gap in that Soldier's unit and Family. To stay ready, Soldiers must stay safe.

Safety must be an imperative, not a priority. An imperative is a "have to do," while priorities can shift due to competing demands. Safety can't slide to the left or right simply because something else might seem more important. In terms of Soldier's lives, there is nothing more important than safety.

Aviation safety is not accidental. It is a deliberate process where members in an organization take the time and effort to effect positive change and foster a safety culture because they care about saving fellow Soldiers' lives.

Until next month, fly safe!

LTC Christopher Prather
USACR/SC Aviation Director
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The cold hard facts about the cold Flightfax 13 December 1989

Often overheard around the world is the statement, “If you don’t like the weather here, hang around a few minutes and it’ll change.” However, Army aviation missions don’t change just because the weather does. Or because the seasons do.

Winter is shivering its way across many parts of the world where Army aviators fly. Extreme cold and blowing snow offer special challenges in ground operations, preflight, and actual flight conditions.

Rapidly changing weather is by far the greatest hazard to cold weather flying. Weather minimums must be established early in planning any operation to prescribe the least acceptable weather in which a commander will permit an operation to be mounted. Current aviation weather forecasts are mandatory. Factors that must be considered are temperature, density altitude, wind speed and direction, icing, visibility, turbulence, and snow and ice conditions.

Aviators must never underestimate the danger of the cold. The following hazards brought about by changes in the weather can be more than inconvenient; they can be deadly.

Icing

Only those aircraft equipped with deicing and/or anti-icing equipment are capable of safe instrument flight into clouds or visible moisture when the temperature is freezing or below. Takeoffs should not be attempted when frost, ice, or snow is on the airfoil surfaces. Only a thin layer of ice is necessary to cause a loss of lift.

Structural icing is the most hazardous condition associated with the cold. AR 95-1 prohibits Army aircraft from flying into known or forecast severe icing conditions. Icing is most common when the temperature is between 32 degrees F with visible moisture in the form of clouds, drizzle, rain, or wet snow. Icing is rarely experienced in temperatures colder than -4 degrees F.

Weather forecasters give icing severity based on meteorological conditions as they affect fixed wing aircraft. However, helicopter main rotor blade rotation amplifies ice accumulation, so reported conditions will be more severe for helicopter operations.

Freezing rain

When freezing rain is encountered in flight, the pilot should land as soon as possible. Until landing is possible, the pilot should request a higher altitude if IFR, or if VFR, initiate a climb and contact the nearest ATC facility for clearance. Freezing rain is usually the result of a warm air mass overriding a cold air mass. If the pilot climbs when he encounters freezing rain, he will normally be entering warmer air.

Static electricity

During cold weather, static electricity creates serious problems. It can be generated by the movement of an aircraft through the air, by brushing snow and ice from the aircraft, or by dragging steel ground cables over the snow.

During refueling and rearming operations, it is extremely important to ground the aircraft properly. Individuals must discharge static charges built up in their bodies by touching a properly grounded surface. During refueling operations, fuel nozzles should be fully inserted into the aircraft filler neck at all times.

Landing in snow

Operation over snow-covered terrain is difficult, even for the most experienced aviators, and landing is especially tricky. When landing, pilots should never plan to terminate the approach to a hover, as disorientation can occur in the resulting snow cloud. The initial position of an approach to

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snow is the same as any other approach. The primary difference is in the last 50 feet. Instead of making the normal deceleration below effective translational lift (ETL) airspeed, an airspeed greater than ETL should be maintained until just prior to touchdown. This procedure keeps the helicopter in front of the snow cloud until touchdown, after which the aircraft will become engulfed in the snow cloud.

The approach angle during the last 50 feet deviates from the standard constant angle of descent. A slight leveling off is required to maintain airspeed. As the aircraft descends to an in-ground effect altitude, blowing snow will develop to the rear of the aircraft. It is at this point that deceleration should begin to position the aircraft in a landing attitude. Once ground contact is made, torque should be reduced until the aircraft is firmly on the ground.

13 Dec 89 Flightfax – author not listed.

References:

FM 1-202, FM 1-230, FM 31-70, FM 31-71 [Current reference is FM 3-04.203]

If you have comments, input, or contributions to Flightfax, feel free to contact the Aviation Directorate, U.S. Army Combat Readiness/Safety Center at com (334) 255-3530; DSN 558

UAS Class A – C Mishap Table

	FY 12 UAS Mishaps					FY 13 UAS Mishaps			
	Class A Mishaps	Class B Mishaps	Class C Mishaps	Total		Class A Mishaps	Class B Mishaps	Class C Mishaps	Total
MQ-1	5	1		6	W/GE	2			2
MQ-5	1		2	3	Hunter	1		3	4
RQ-7		5	20	25	Shadow			5	5
RQ-11			1	1	Raven				
MAV									
YMQ-18	1			1					
SUAV			5	5	SUAV			2	2
Aerostat	2	5		7	Aerostat				
Total for Year	9	11	28	48	Year to Date	3	0	10	13

as of 12 Dec 12

Professional Army Aviator

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Assault Branch Chief

What does it mean to be a professional Army aviator? The word implies that you are an expert; a technical and tactical expert in the employment of your specific aircraft. To claim the title of professional you must do three things:

- ❑ **Become an expert in the tools and skills necessary to do your job.**
- ❑ **Always perform to the best of your abilities.**
- ❑ **Keep your knowledge up to date.**

Aviators become experts in the necessary tools and skills by attending flight school, going through RL progression, and attending unit training events conducted at the Joint Readiness Training Center and the National Training Center. They continue to advance their skills, gain experience and become tactical and technical experts in their field by participating in mission planning exercises, working with company leaders and coordinating with battalion and brigade staff elements. Aviators must always keep their eyes and ears open so they can soak up as much information about their chosen field as possible. If an individual chooses to show a lack of personal discipline and does not participate in unit training events or in the day to day operations of the unit, they will lack the opportunity to accumulate knowledge. Eventually, the level of their knowledge base, along with proficiency in the aircraft, will deteriorate and they will be viewed by their peers and command as less than professional.

When we do not perform to the best of our abilities we not only let ourselves down but our entire team. We are all familiar with individuals that do not pull their own weight. We have all flown with someone that does not want to do the detailed mission planning or be bothered by mission rehearsals and briefings. We have all worked with someone who, when given an aircraft and crew to conduct continuation training, takes the easy route and goes VFR to a local airport where they can get lunch. They then return to their home station VFR instead of planning an IFR flight to their destination and then planning a VFR flight with a tactical route in the local terrain flight area. If all we do is the minimum to get by, and don't plan and train for the next combat theater, then we will never become better and lives could be lost. Meeting minimum standards is not the mark of a professional.

The Directorate of Evaluation and Standardization has recently been directed to "Put the big S back in DES". To that affect, we have started administering general knowledge written examinations to aircrew members in units during our visits. What we have learned is that most units have very good training programs to get aviators from RL3 to RL1, but due to OPTEMPO, or personnel shortages, continuance of academic training is lacking in many units. Recently, DES has observed an alarming trend beginning to emerge based on previous assessment visits. A large number of individual aviators are incorrectly answering emergency procedures and aircraft limitation questions. In the past, the

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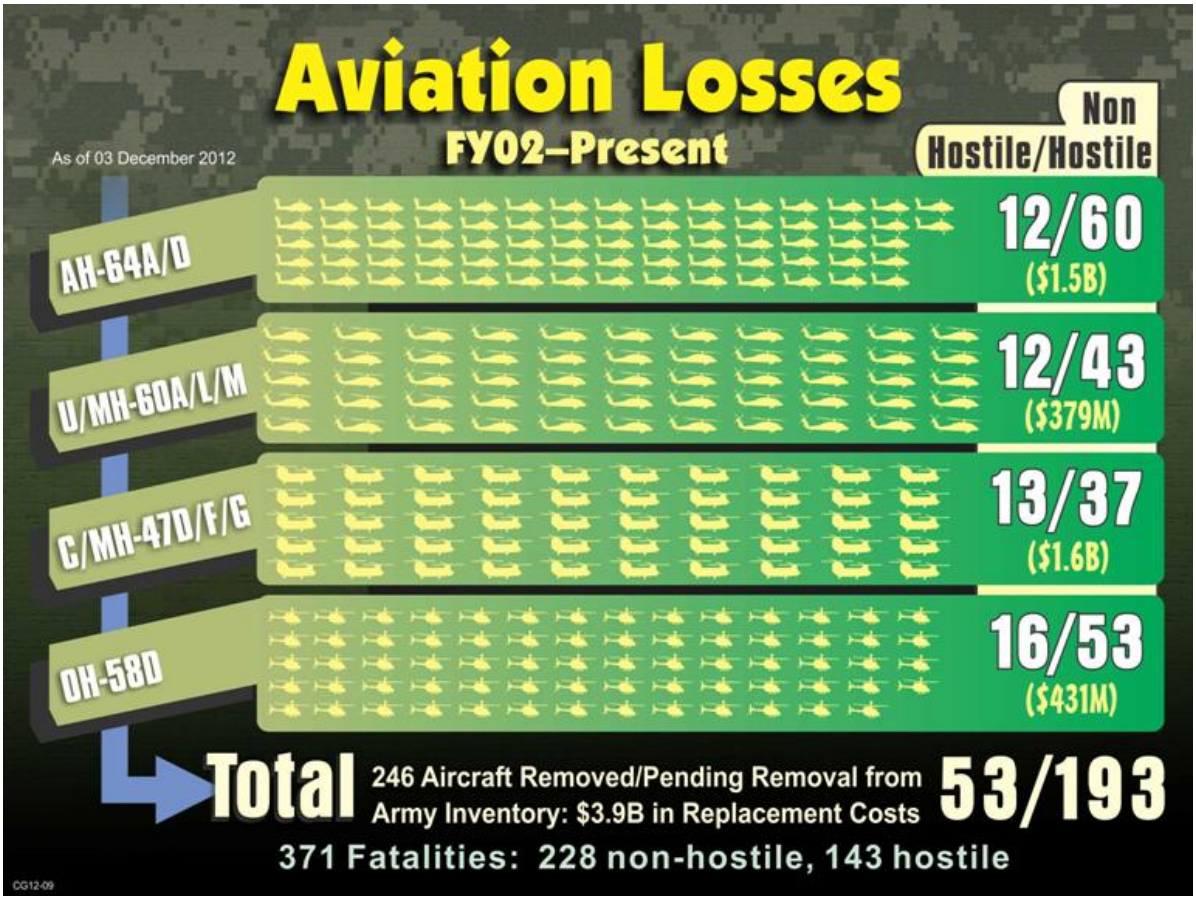
commonly missed areas on the written tests were generally limited to areas of the ATM where recency was a factor, i.e. instruments, aerodynamics, and installation standard operating procedures. The fact that many are missing questions fundamental to the aircraft in which they operate speaks to personal discipline, standards, and safety. Even more alarming is that the aviators missing the emergency procedures and limits questions are senior PCs, UTs, and MPs – the primary trainers in the unit. Many times aviators out of flight school do the best on the chapter 9 and chapter 5 questions due to the recency with the school environment. Every aviator must have the personal discipline to continue to study and gain knowledge in the aircraft which they operate and must understand actions to be taken in an emergency. Although ATP commanders are responsible for the unit academic program, individual aviators are responsible for maintaining a basic level of knowledge which includes aircraft emergency procedures and limitations. One can hardly be known as a professional when they lack the very basic fundamental knowledge of the aircraft they fly.

Bottom line then, is if you want to be known as a professional aviator, a tactical and technical expert, it is up to you. Aviators must take advantage of all training opportunities presented in order to gain new knowledge and build upon the basic skills taught in flight school. To become the expert that others come to for answers, you must perform at a level above your peers, and exercise the personal discipline required to be a proficient expert aviator. It is up to each of us to become the professional aviator that the Army and our country expect and require us to be.



Mishap Review: UH-60L Ground Taxi

While taxiing to parking following completion of a day air movement mission, chalk 1, in a flight of two UH-60L's, attempted a 180 degree turn on a maintenance pad and made contact with an 8' T-wall barrier. The tail strike resulted in damage to all four tail rotor paddles, separation of the tail rotor gearbox and structural damage to the tail pylon and drive train (Class B). There were no injuries.

History of flight

The mission was a day aerial movement (two UH-60Ls) with a follow on LZ/PZ reconnaissance. The low risk mission was considered a standard combat set with final mission approval completed by the battalion commander. The crews began their duty day at 1030L. Pre-flights were conducted at 1100 followed by crew briefs. The weather was 25,000 broken, visibility 7 miles with winds 090/06 knots. Temperature was +22 C , PA of +23 feet and altimeter of 29.91.

The flight departed at 1330L with the accident aircraft in the lead position. Approximately one hour later, the flight arrived at their destination, dropped off and received new passengers, then departed back to home base.

Upon return to their home station, the aircraft dropped off their passengers and repositioned to the taxiway to return to parking . At approximately 1600 hrs local, chalk one pulled into the center of three maintenance pads. The aircraft was maneuvered onto the pad with the intention of doing a 180 degree turn to have the nose pointing out on the pad in anticipation of completing a maintenance inspection. As the aircraft began its initial 180 degree turn there was a concern about tail rotor clearance with a metal stand located at the rear of the pad. The aircraft stopped the turn, maneuvered forward to ensure clearance, then continued the pedal turn. As the aircraft made its final right turn, the tail rotor made contact with a concrete T-wall that was part of a bunker located just off of the right-rear of the maintenance pad. When the tail rotor made contact with the T-wall, the tail rotor gearbox separated from the aircraft. Emergency shut down was completed and the crew exited without injury.

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Crewmember experience

The PC had more than 3200 hours total flight time, 1686 in the UH-60. The PI had 600 hours total time with 556 hours in the UH-60. The CE, right side CE station, had more than 488 hours. The CE, located in the left CE station, had 520 hours.

Commentary

The accident board determined that the crew did not adequately ensure the tail was clear prior to turning and the crewchief became fixated on the tailwheel and stabilator clearance while not properly clearing the tail rotor tip path of obstacles. The crew did not properly employ all the tenets of crew coordination in that he crew did not communicate positively, announce actions, provide aircraft control and obstacle advisories, nor were they explicit in their communication procedures.

Manned Aircraft Class A – C Mishap Table

	Month	FY 12 Class A Mishaps	FY 12 Class B Mishaps	FY 12 Class C Mishaps	FY 12 Fatalities		FY 13 Class A Mishaps	FY 13 Class B Mishaps	FY 13 Class C Mishaps	FY 13 Fatalities
1st Qtr	October	2	2	6	1		1		5	
	November	1	0	13	0			1	4	
	December	2	2	6	4					
2nd Qtr	January	2	0	11	0					
	February	2	1	6	0					
	March	1	2	11	0					
3rd Qtr	April	2	1	6	4					
	May	1	0	4	0					
	June	1	0	2	0					
4th Qtr	July	4	3	9	1					
	August	2	5	5	0					
	September	2	0	2	0					
	Total for Year	22	16	81	10	Year to Date	1	1	9	0

as of 12 Dec 12

CH-47 Five Year Accident Trend Review

During the last five Fiscal Years (FY08 – FY12), there were 19 recorded CH-47 Class A mishaps, resulting in 9 fatalities. Additionally, there were 17 Class B and 88 Class C mishaps. A review of the mishaps reveals the following:

- 94% (18) of the 19 Class A mishaps had human error cause factors, with one flight-related (sling load) materiel failure. 14 of the Class A mishaps occurred under NVGs. 13 mishaps were in OEF and 3 in OIF. 5 Class A's involved dust landings (four under NVGs).
- Class B's consisted of 16 (94%) human error and 1 environmental high-wind incident. 12 mishaps occurred under NVGs. OEF accounted for 12 of the Class B's with OIF having 1. Dust landings were present in seven Class B mishaps – all under NVGs.
- There were 88 reported Class C mishaps with 66 (75%) human error, 16 (18%) materiel, three environmental and three unknown/not reported. 49 were under NVGs. 40 were in OEF and 13 in OIF. 11 Class C incidents involved dust landings.

Leading accident events (Class A)

- **Dust/Hard landing**. There were seven accidents associated with aircraft landing mishaps. (1) Aircraft came to rest on its left side following NVG hard landing in dust (2) Aircraft entered dynamic rollover during day dust landing (3) Aircraft landed hard in dust conditions while crew was under NVGs. Damage included structural, landing gear, and main rotor system (4) While conducting a hasty air assault at night, the aircraft descended rapidly and impacted aft first with a right roll. The impact caused minor injuries to the crew and separated the aft pylon from the aircraft (5) Aircraft was conducting a combat night insertion into a non-standard HLZ. Aircraft was chalk 2 of two when it suddenly descended while on short final and had a hard landing (6) During landing, aircraft experienced brown out conditions. Aircraft contacted and bounced off the ground, rolling onto its right side into a wall (7) Aircraft contacted the ground with forward speed during landing in dust conditions under NVGs.
- **Materiel failure.** Aircraft's sling load separated from the aircraft. Caused by failure of the reach pendant.
- **Blade strike.** Four mishaps involved aircraft striking an object. (1) During a NVG upslope landing into a non-standard HLZ, aircraft flares expended. Aircraft drifted forward and left with the forward main rotor system making contact with rising terrain (2) During NVG environmental training, aircraft landed short of intended HLZ. Main rotor system contacted sand dune resulting in Class A damage (3) While attempting a two-wheel pinnacle landing on a steep rocky surface, the aft rotor system contacted terrain, resulting in significant damage (4) While attempting a pinnacle landing , rear rotor blades contacted a tree. Aircraft became unstable and pilots hard landed to severely sloped terrain, damaging all rotor blades on the front and aft systems.
- **External loads.** Four accidents related to sling load operations were reported. (1) Failure of the reach pendant caused loss of load (2) Crew experienced spinning of the sling load approximately 5 minutes into the flight. The load was a single point reach pendant rigged

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TRICON weighing approximately 6000 Ibs. The crew tried to gain control of the load and stabilize it by slowing down their airspeed, but the spinning did not subside and the load separated following failure of the reach pendant's lower eye. (3) During sling load operations, load was subsequently blown over in the wake of rotorwash from the aircraft, striking a member of the hook-up crew on the ground. Soldier was fatally injured (4) During short final to deliver external load, emergency jettison lever was bumped and the load fell from approximately 150-200 feet AGL.

- **Misc.** (1) During initial aerial refueling qualification training, the MRB made contact with and cut the refueling hose from the MC130 tanker (2) Aircraft experienced #2 engine failure during descent. Rear of the aircraft landed on an 8 foot stone wall. Front of the aircraft came to rest on the ground (3) Aircraft was chalk 3 of a flight of 4 on an NVG air movement when the crew experienced spatial disorientation and lost control of the aircraft. The aircraft struck the ground in a nose low, left banking attitude. The aircraft was destroyed and all seven Soldiers onboard were fatally injured (4) Soldier was fatally injured when explosives he was carrying exploded due to static electricity generated by the aircraft.

FY08 - 12	**Chinook CLASS A – C Mishaps**			
FY	**Class A**	**Class B**	**Class C**	**Fatal**
2008	5	2	25	9
2009	1	6	19	0
2010	5	3	11	0
2011	3	5	18	0
2012	5	1	15	0
Total	19	17	88	9

FY03 - 07	**Chinook CLASS A – C Mishaps**			
FY	**Class A**	**Class B**	**Class C**	**Fatal**
2003	5	1	9	1
2004	2	3	11	0
2005	3	2	8	19
2006	3	1	10	14
2007	3	3	11	13
Total	16	10	49	47

Flying in the Snow

Flightfax, 26 Sep 90, author not listed

By the time you read this, some Army aviation units will already be flying in winter conditions. For the most of you, however, there is still time to brush up on snow operation procedures before you need them. If the PIC in the following account had done that, this accident might never have happened.

The PIC had attended classes on snow operations and landings within the past 60 days, but he did not participate in hands-on training. He was not required to attend the makeup training sessions before undertaking a mission that required direct application of points the instruction covered.

On the day of the accident, he was assigned as PIC of the third aircraft in a flight of five UH-60s. The mission was a tactical troop insertion, and there were 10 soldiers aboard his aircraft in addition to the three crewmembers. The lead aircraft brought the flight into a downwind approach to an area of up-sloping terrain covered by dry powder snow. To the left of the landing site, the ground sloped downward. As the PIC of chalk 3 selected a touchdown point down slope and to the left rear of the lead aircraft, the crew could see a large amount of snow circulating through the rotors of the first two aircraft. During the approach, the other crewmembers warned the PIC that his rate of closure was excessive. As he continued the approach, using the aircraft on the ground and a distant tree line as visual references, a cloud of loose snow enveloped the aircraft. The helicopter landed hard on the slope and rolled onto its left slide. The passengers were thrown out as the aircraft rolled over. Luckily, there were no serious injuries.

The aircraft hit the ground at 11 to 17 knots ground speed and in a descent of 1,600 feet per minute – excessively fast even for an approach to level terrain. This, and the fact that it was landing to a slope, decreased the aircraft's stability. FM 1-202: Environmental Flight cautions that an approach to the ground should not be attempted in dry powdered snow unless the touchdown area is known to be level and free of obstructions.

In another case, a platoon leader, who was also the mission briefer, failed to mention to the PIC of a UH-1 that he had never made snow landings or takeoffs, although he knew the mission they were about to fly required such procedures. He had also made a last-minute change in PICs, which he hadn't cleared with operations, and he failed to check the crew-rest status of the PIC he selected. If he had, he would have known that the new PIC had slept only 9 hours in the previous 43 hours. As the platoon leader made an approach to a field site covered with 12 inches of loose, powdery snow, he decreased his airspeed. The aircraft was engulfed in blowing snow that started at the rear of the aircraft and moved toward the front, causing the platoon leader to become spatially disoriented. Thinking the aircraft was moving rearward, he applied forward cyclic, and the next thing he knew, the aircraft hit the ground.

The procedure described in FM 1-202 for taxiing or repositioning in loose snow is to either ground taxi or bring the aircraft to a high hover and air taxi at a faster than normal speed to the reposition area. The pilot of another UH-1 didn't use either of these procedures because he was sure he could maintain sight of a reference point outside his right window. When he couldn't, he lost sight of his visual reference in blowing snow and became disoriented, and the aircraft drifted, hit the ground, and rolled over.

Overconfidence often plays a part in whiteout accidents. That was true in the following case.

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The unit IP, who was flying an AH-1, was familiar with snow-landing techniques. But the approach-to-ground technique he chose for landing at a sloping, snow-covered FARP wasn't suitable for the landing site. After touching down with the right skid on the uphill side of an 8 degree slope covered by dry powdered snow, the IP felt the aircraft begin to roll left and tried to abort the landing. The aircraft was engulfed by snow blown up by its rotors, and, as he tried to fly out of the whiteout, the IP lost all outside references. The aircraft drifted into a line of trees and crashed. The IP had used the same approach-to-ground technique several times that day and was confident in his ability to do it again; however, the previous landings had been made to relatively flat ground.

The landing area he had selected this time met the definition of a confined area (it was surrounded by trees to the left and high ground to the front and right). In this case, the preferable snow-landing technique would have been to terminate at a high hover, followed by a slow vertical descent to the ground as visibility permitted. The rotorwash would have cleared away the loose snow and allowed the aircraft to make a visual approach with less risk of encountering whiteout conditions.

Takeoffs can be equally hazardous in snow conditions. FM 1-202 and Aircrew Training Manual task 2104 stipulate that a maximum performance takeoff will be made where there is a danger of whiteout from rotor-induced snow. In one case, the PIC of a UH-1 used a normal takeoff (airspeed over altitude) from a snow-covered parking ramp – and the results were predictable. He lost sight of the ground in blowing snow and the aircraft crashed, injuring both pilots.

The PIC was an experienced IP, but he had little experience in snow operations. He had been in the area only 3 months, and he had never flown in powdery-snow conditions. The PIC was also in a hurry to take off. In fact, he was in such a hurry that the crew chief had to remind him to perform the HIT check. The crew had begun their flight to a field site the day before, but because of problems with a fuel boost pump they had been forced to return to their home station. It was 1500 hours before repairs could be made and they could take off again. Then deteriorating weather forced them to stop en route. By this time, the short winter day was almost over, and rather than attempt to find an unfamiliar field site in darkness, they decided to remain over night. The fact that some of the equipment for the supported unit (which was already in the field) was on the aircraft probably added to the PIC's hurry to take off the next morning. There had been no loose snow on the ground when they departed their home base the day before or when they arrived at the airfield where they spent the night. But during the night, about 3 inches of snow fell, and when the PIC attempted a normal takeoff, the powdery snow was blown up by the aircraft's rotors, causing him to lose sight of all ground references.

While it did not contribute to the accident, investigators found that the aircraft was over gross weight. The crew had not weighed the equipment they were carrying; instead they guessed, and they missed it by 397 pounds. In addition, the PIC's performance data was not correct for the environmental and aircraft conditions. Although in the cold temperatures the aircraft had the reserve power needed to take off with the load it was carrying, these factors indicate the PIC's planning was not as it should have been.

You can readily see from these examples the potential hazards associated with flight operations over snow. And it doesn't happen just to inexperienced pilots, either; some of these pilots had several years of experience flying in the snow. The point is, if your unit doesn't have an effective training program to ensure pilots are knowledgeable and capable of safely operating aircraft over snow-covered terrain, time's wasting. Don' wait to find yourself in a situation where all the world seems to have suddenly gone white. Right now is the time to get ready for flying in the snow.

Selected Aircraft Mishap Briefs

Information based on Preliminary reports of aircraft mishaps reported in November 2012.

Cargo helicopters

CH-47D 

-Aircraft landing gear contacted a berm during approach in brown-out conditions to an unimproved HLZ. Gear partially separated from the aircraft and suspected structural damage occurred to the left-aft fuselage. One crewmember sustained ambulatory injuries. (Class B)

Utility helicopters

LUH-72A 

-Crew noted a loud report from the upper cabin area one hour into a flight. Training was terminated and the aircraft landed. Post-flight inspection revealed that the left hydraulic cabin door had separated. Additionally, all four main rotor blades sustained damage from contact with the door. (Class C)

Fixed Wing

C-12U 

-Aircraft struck a deer while taxiing following landing. Left prop sustained damage. (Class C)

EO-5C 

-Crew experienced both #1 and #2 engine hydraulic pump caution indications during flight. Crew announced an emergency and landed without further incident. (Class C)

U.S. ARMY COMBAT READINESS/SAFETY CENTER

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Unmanned Aircraft Systems

MQ-1C 

-System experienced an engine failure during manual transfer of fuel operation. Engine restarts were attempted without success. System crashed in proximity of its departure origin but was reportedly destroyed upon impact. (Class A)

MQ-5B 

-System was launched with the arresting gear hook in the down position, which then caught the arresting cable during take-off. Aircraft exited the runway sustaining damage. (Class C)

-System experienced engine RPM fluctuations during flight, followed by complete engine failure. Wreckage was located and destroyed in place. (Class A)

RQ-7B 

-Crew experienced GEN and ignition FAIL warnings during approach to land. UA crashed and was recovered with damage. (Class C)

-System experienced RPM loss and subsequent ignition failure during flight. Recovery chute was deployed and UA was recovered with damage. (Class C)

-System experienced engine RPM decrease followed by total engine failure during flight. System crashed and was recovered with damage. (Class C)

RQ-20A 

UAS struck an aerostat tether wire during flight training. UAS was destroyed in the strike. (Class C)